Sharp to evaluate Eco House, aims to minimize energy consumption

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Sharp Corporation has completed a Sharp Eco House at GREEN FRONT SAKAI in Osaka, Japan and in June 2011 began operation with the aim of realizing a house that emits "zero CO_2 emissions." Sharp's dual goals for the Eco House are to minimize power consumption and contribute to a comfortable living environment.

The Eco House is equipped with cutting-edge energy-saving appliances integrated into a network using HEMS. This makes it possible to use displays, such as AQUOS TVs and LCD tablets, to show how much electricity is being consumed, and it will eventually give residents of such a home a quantitative look at their energy consumption and energy savings. The Eco House is also equipped with LED lighting, which will be evaluated for energy-saving performance and for its ability to adjust the brightness and color of the lighting to the most comfortable levels.

Also to be evaluated is the ability to use HEMS to properly control the energy created by the photovoltaic modules, stored in the storage batteries, and consumed by the appliances.

The Eco House will use state-of-the-art technology in Sharp's efforts to develop the ultimate in future home comfort. For example, the energy generated by the photovoltaic modules will supply DC (direct current) power straight to DC appliances without conversion to AC (alternating current), while an electric vehicle (EV) traction battery will work in conjunction with the Intelligent Power Conditioner as a storage battery for the house. In addition, a large 180-inch LCD screen will be evaluated

for suitability to today's green-conscious world.

Data acquired through Eco House evaluations will help Sharp to expand its energy solutions business: the Eco House experiment will help realize practical applications that cover things like the control of peak electricity and the compatibility of devices and appliances with smart grids.

The Eco House will do the following:
• Use devices like AQUOS LCD TVs and LCD tablets to see exactly how much electricity is being saved through the use of HEMS and systems for measuring individual appliance consumption.
• Evaluate the energy savings and comfort of LED lighting.
• Evaluate how effectively an EV storage battery connected to the Intelligent Power Conditioner can power appliances in a house.
• Evaluate the use of photovoltaic module energy as direct feed for DC appliances.

Provided by Sharp Corporation